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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/725,767

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Aly M. Ismail

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10/05/2006

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EXAMINER

CHAN, RICHARD

ART UNIT

PAPER NUMBER

2618

DATE MAILED: 10/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/725,767

Applicant(s)

ISMAIL, ALY M.

Examiner

Richard Chan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/2/03 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 6 and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicant has amended claims 6 and 9 to recite the limitation wherein "the low noise filter comprises an open circuit between the impedance inverter and an input of an amplifier." No where within the specification mentions the use of an open circuit between the impedance inverter and input of an amplifier.

Claims 7, 8, 10-12 are rejected under 35 U.S.C 112, first paragraph as being dependent on un-examinable claim 6 and 9.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 1-5 are rejected under 35 U.S.C. 102(b) as being anticipated by Moudling (US 4,290,036).

With respect to claim 1, Moudling discloses the method for filtering Fig.5 a received signal in a wireless receiver, comprising: providing a received signal at terminals 1 and 2 to an amplifier 15 and 16 (Abstract); and inverting the impedance using an inductance applied at the output of the amplifier without interfering with the function of the amplifier. The gyrator circuit labeled as 15, 16, and 7 do not affect the gain of the amplifier, therefore does not affect the function of the amplifier. (Col.4 lines 35 – Col.5 lines 18) and (Col.6 lines 14-36)

With respect to claim 2, Moudling discloses the method of claim 1, further comprising inverting the impedance of the received signal at the output of the amplifier using a voltage controlled current source to transform the inductance applied to the received signal to a capacitance. (Col.2 lines 28-57)

With respect to claim 3, Moudling discloses the method of claim 2, further comprising implementing the voltage controlled current source as a pair of transconductance amplifiers 15 and 16.

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With respect to claim 4, Moulding discloses the method of claim 3, further comprising implementing the inductance at the output of the amplifier using a pair of voltage controlled current sources and a capacitance. (Col.3 line 55 to Col.4 lines 13)

With respect to claim 5, Moulding discloses the low-noise filter for a wireless receiver, comprising: an amplifier 13; and an impedance inverter labeled as gyrator circuit 15, 16, and 7 applied at the output of the amplifier 13 and configured to transform inductance applied to a received signal to a capacitance. (Col.4 lines 35 – Col.5 lines 18) and (Col.6 lines 14-36)

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 13-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moulding (US 4,290,036) in view of Moffat (US 6,906,584).

With respect to claim 13, Moulding discloses means for inverting the impedance of the received signal with gyrator circuit 15, 16, and 7 in Fig.5 (Col.6 lines 14-36) at the output of the amplifying means 13 to transform inductance applied to a received signal to a capacitance, wherein means for inverting impedance of the received signal does not affect the means for amplifying the baseband signal, the gyrator circuit does not affect the gain of amplifier 13 (Col.6 lines 14-36), however Moulding does not disclose a portable transceiver, comprising: means for modulating a data signal; means for upconverting the modulated data signal and provide a radio frequency (RF) signal; means for transmitting the RF signal; means for converting a received signal to a baseband signal; (Col.4 lines 35 – Col.5 lines 18) and (Col.1 lines 44-64)

The Moffat reference however discloses a portable transceiver Fig.5, comprising: means for modulating a data signal 128; means for upconverting 102 the modulated data signal and provide a radio frequency (RF) signal; means for transmitting the RF signal; means for converting a received signal to a baseband signal. (Col.7 lines 35-Col.8 lines 50)

It would have been obvious to one of ordinary skill in the art to implement the filter architecture as disclosed by Moulding within the transmitter section as disclosed by Moffat in order to filter out the baseband signal and convert the inductance applied into a capacitance.

With respect to claim 14, Moulding and Moffat combined disclose the portable transceiver of claim 13, however Moulding continues to disclose the voltage controlled

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current source means for inverting the impedance of the received signal at the output of the amplifier to transform the inductance applied to the received signal to a capacitance.

(Col.2 lines 28-57)

With respect to claim 15, Moulding discloses the gyrator-generated inductance applied at the output of the gain amplifier, the gyrator-generated inductance by circuit 15, 16, and 7 in Fig.5 configured to transform inductance present at the output of the variable gain amplifier to a capacitance without interfering with function of the amplifier because the gyrator circuit does not affect the gain of amplifier 13 (Col.6 lines 14-36), however Moulding does not disclose a variable gain amplifier configured to process a received radio frequency (RF) signal. (Col.4 lines 35 – Col.5 lines 18) and (Col.1 lines 44-64)

The Moffat reference however discloses a system for removing direct current (DC) offset from a received signal from antenna 104, comprising: a variable gain amplifier 116 being controlled by control system 110 configured to process a received radio frequency (RF) signal. (Col.7 lines 35- Col.8 lines 50)

It would have been obvious to one of ordinary skill in the art to implement the gyrator-generated inductance as disclosed by Moulding with the system of Moffat in order to filter out the baseband signal to deliver clearer transmission signals.

With respect to claim 16, the Moulding and Moffat reference combined discloses the system of claim 15, however the Moulding reference continues to disclose wherein

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the gyrator-generated inductance adds a high pass filter pole to the variable gain amplifier. (Col.1 lines 58- Col.2 lines 7)

With respect to claim 17, Moulding and Moffat combined disclose the system of claim 15, however Moulding continues to disclose wherein the gyrator-generated inductance shunts excess DC current present at the output of the variable gain amplifier to ground. (Col.6 lines 32 – Col.7 lines 19)

With respect to claim 18, Moulding and Moffat combined disclose the system of claim 15, however Moulding continues to disclose wherein, at a frequency above a high-pass cutoff frequency, the gyrator-generated inductance appears as a high impedance at the output of the variable gain amplifier. (Col.4 line 62- Col.5 line12)

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1, 13, and 15 have been considered but are moot in view of the new ground(s) of rejection.

Applicant argues that the limitation without interfering with the function of the amplifier is not recited by the Moulding reference (US 4,290,036) and cites Moulding Col.5 lines 42- Col.6 lines 2, however this passage fails to disclose wherein the gyrator circuit 15, 16, and 7 generating the inductance and inverting the impedance has any function of changing the gain of the amplifier 13 in Fig.5 which is the function of the amplifier.



***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Chan whose telephone number is (571) 272-0570. The examiner can normally be reached on Mon - Fri (9AM - 5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571)272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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09/30/06



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